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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,402	10/28/2003	Thomas Hathaway	3562-000038	5636

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EXAMINER
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LIN, ING HOUR

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/695,402	<b>Applicant(s)</b> HATHAWAY, THOMAS	
	<b>Examiner</b> Ing-Hour Lin	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-21,24-37,40-52 and 55-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-21,24-37,40-52 and 55-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 9-14 and 17-21, 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al in view of Madono.

Hoffman et al (col. 5, lines 64+) teach the claimed parts washer apparatus for non-caustic cleaning or removing residual casting material from the casting metal part (conductive bodies) 10, comprising a holder (grid) 19; cleaner dispersing system including at least one spray head (nozzle) 40, a fluid recirculator with a supply line 38 and drain pump 48 in line 46 for return to reservoir 34, said holder 19 comprises a first electrode of cathode 26 and the second electrode is connected to a fluid tank 14 containing electrolyte 16 for cleaning or removing the residual casting material from the casting metal part (conductive bodies) 10 held by the holder and inserted in the electrolyte. Hoffman et al fail to teach the use of water-soluble disintegration additive.

However, Madono (col. 2 lines 22+) teaches the use of water-soluble disintegration additive including ionic compound such as alkali metal carbonates and bicarbonates for the purpose of accelerating the removing the resin bonded sand core of the residual casting material. It would have been obvious to one having ordinary skill in the art to provide Hoffman et al the

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water-soluble disintegration additive as taught by Madono in order to accelerate the removing the resin bonded sand core of the residual casting material.

3. Claims 15-16 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al in view of Madono and further in view of Johnson et al.

Hoffman et al in view of Madono fail to teach the use of particular foundry sand and resin.

However, Johnson et al (col. 3, lines 60+) teach the use of particular foundry sand including silica sands and bank sands and synthetic sands and phenolic urethane resin and clay for the purpose of forming sand core or mold for casting metal article such as engine block. It would have been obvious to one having ordinary skill in the art to provide Hoffman et in view of Madono use of particular foundry sand and resin as taught by Johnson et al in order to form sand core or mold for casting metal article such as engine block.

4. Claims 32-37, 40-52, 55-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al in view of Madono and further in view of Hoffman et al.

Johnson et al (col. 3, lines 60+) teach the claimed system for the production of a clean industrial part using a casting material of particular foundry sand including silica sands and bank sands and synthetic sands and phenolic urethane resin and clay for the purpose of forming sand core or mold for casting metal article such as engine block. Johnson et al (col. 4, lines 57+) further teach the use of immersing the resin bonded sand core in water or a dilute alkaline solution of sodium hydroxide, potassium hydroxide or sodium carbonate for the purpose of easy

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removal of the sand core from castings. Johnson et al fail to teach the use of a water-soluble disintegration additive and a parts washer.

However, Madono (col. 2 lines 22+) teaches the use of water-soluble disintegration additive including ionic compound such as alkali metal carbonates and bicarbonates for the purpose of accelerating the removing the resin bonded sand core of the residual casting material. Further, Hoffman et al (col. 5, lines 64+) teach the claimed parts washer apparatus for the purpose of non-caustic cleaning or removing residual casting material from the casting metal part (conductive bodies) 10, comprising a holder (grid) 19; cleaner dispersing system including at least one spray head (nozzle) 40, a fluid recirculator with a supply line 38 and drain pump 48 in line 46 for return to reservoir 34, said holder 19 comprises a first electrode of cathode 26 and the second electrode is connected to a fluid tank 14 containing electrolyte 16 for cleaning or removing the residual casting material from the casting metal part (conductive bodies) 10 held by the holder and inserted in the electrolyte. It would have been obvious to one having ordinary skill in the art to provide Johnson et al the use of a water-soluble disintegration additive and a parts washer as taught by Madono and further in view of Hoffman et al in order accelerate the removal of residual casting material from the cast metal part.

### ***Response to Arguments***

Applicant's arguments filed on 9/29/05 have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

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teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, applicant argued Madono's plastic capsule used for microencapsulating the water-soluble disintegration additive is water resistant. However, Madono (col. 2, lines 47-51) teaches the plastic capsule is not an issue because the capsule thermally decomposes during casting process such as pouring molten metal into the mold containing the sand core; and then the water-soluble additive reacts with the binder in the casting material and accelerates the breakdown of binder bonded core. Further, the additive is ionic compound such as alkali metal carbonates and bicarbonates and water soluble and can dissolve in the electrolyte 16 contained in the fluid tank 14 for cleaning or removing the residual casting material from the casting metal part.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*I H L.*

I.-H. Lin

12-9-05

**KEVIN KERNS**  
**PRIMARY EXAMINER**

*Kevin Kerns 12/12/05*